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PROPOSED REVISIONS TO THE MEDIUM-TERM PLAN FOR THE PERIOD 1992-1997*

MAJOR PROGRAMME IV. INTERNATIONAL ECONOMIC COOPERATION FOR DEVELOPMENT

Programme 17. Science and technology for sustainable development

1. The preparation, format and content of the medium-term plan and its revisions are governed by the Regulations and Rules Governing Programme Planning, the Programme Aspects of the Budget, the Monitoring of Implementation and the Methods of Evaluation (ST/SGB/PPBME Rules/1(1987)).

2. Regulation 3.11 provides, inter alia, that the medium-term plan shall be revised as necessary every two years to incorporate required programme changes and that the proposed revisions shall be as detailed as required to incorporate the programme implications of the resolutions and decisions adopted by the intergovernmental organs or international conferences since the adoption of the plan.

3. The revisions proposed below modify the title and the relevant parts of the narrative of programme 17, Science and technology for development, of the medium-term plan for the period 1992-1997, which was adopted by the General Assembly in its resolution 45/253 of 21 December 1990 and issued in document A/45/6/Rev.1. The title of the programme is revised to read programme 17, Science and technology for sustainable development. The revisions update the narrative on the basis of recent legislative mandates adopted by the intergovernmental bodies, including the United Nations Conference on

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* After adoption by the General Assembly at its forty-seventh session, the complete revised medium-term plan will be issued in final printed form as Official Records of the General Assembly, Forty-seventh Session, Supplement No. 6 (A/47/6/Rev.1).

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Environment and Development. They also reflect the recent changes in the intergovernmental machinery of the United Nations as well as those resulting from the current restructuring of the Secretariat. Owing to the calendar of meetings of the Commission on Science and Technology for Development, these revisions were not reviewed by the Commission.

4. Owing to the extensive scope of the revisions to the programme, all paragraphs affected by the revisions are reproduced in their entirety, with the deleted text in brackets and the added text underlined.

5. The following text modifies paragraphs 17.1 to 17.4, 17.7 to 17.12, 17.14 to 17.23, 17.25, 17.27, 17.30 to 17.33, 17.35 and 17.36 of A/45/6/Rev.1.

PROGRAMME 17. SCIENCE AND TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT

A. Programme

1. General orientation

17.1 The general mandate for this programme derives from General Assembly resolution 34/218 of 19 December 1979, in which the Assembly endorsed the Vienna Programme of Action on Science and Technology for Development and established the Centre for Science and Technology for Development as an organizationally distinct entity of the United Nations Secretariat. The Centre is now incorporated into the Department of Economic and Social Development. Moreover, by its resolution 46/235, the General Assembly decided to establish a new Commission on Science and Technology for Development, which replaces the former Intergovernmental Committee on Science and Technology for Development and the Advisory Committee on Science and Technology for Development.

17.2 The programme on science and technology for sustainable development is designed to [enable interested] enhance the capacity of Member States, particularly developing countries, to [achieve increased autonomy in decision-making in science and technology during a period of rapid and continuing change. The broad objective will be to assist Member States in assessing policy issues and options and in developing initiatives in science and technology in accordance with their needs, aspirations, resources and priorities.] manage technological change in achieving environmentally sound and sustainable development objectives. The overall objective will be to assist Member States, particularly developing countries, in developing endogenous capacities for designing science and technology policies and in assessing the potential of new technologies.

17.3 Integration of science and technology into the process of socio-economic development also means that countries must acquire the capability to utilize, adapt [rapidly changing technologies] and generate new and advanced scientific knowledge and technical know-how according to their priority development needs. The international community must contribute to that effort through increased support for the development of endogenous scientific and technological capabilities, both individual and institutional, at the national and regional levels.

17.4 The main elements of this programme evolve from the [new] direction given by the Intergovernmental Committee on Science and Technology for Development at its eighth session and reaffirmed at subsequent sessions, and the functions of its successor - the Commission on Science and Technology for Development, namely: (a) to transform the [Intergovernmental Committee] Commission's general and global recommendations into country-specific and region-specific activities; (b) to strengthen the Advance Technology [Alert] Assessment System [ATAS], including the selection of substantive themes from technology-laden topics of the agenda of [the General Assembly] the Economic and Social Council and analysing them through the ATAS approach and the creation or enhancement of the capacity of developing countries in assessing the implications of new and emerging sciences and technologies on development; (c) [to provide innovative approaches to coordination of activities of the United Nations system in science and technology; and (d)] to facilitate access by developing countries to information on science and technology; (d) to provide innovative approaches to improving the quality of coordination and cooperation in the area of science and technology within the United Nations system, with a view to ensuring optimum mobilization of resources and to formulating corresponding policy guidelines; and (e) to support, within the mandate of the Commission on Science and Technology for Development, the high-level Commission on Sustainable Development to be established in accordance with chapter 38 of Agenda 21.

17.7 The process of socio-economic development in the [coming] current decade will be profoundly affected by recent and anticipated progress in scientific and technological innovations. The rapid developments in micro-electronics, biotechnology, energy and materials, and the new and emerging sciences and technologies in general are bound to have a significant and pervasive impact not only on various production sectors but also on the structure of society, [and] the way of life and the environment. They will intensify the challenge and the opportunity to harness effectively science and technology to meet basic, as well as industrial development needs in national economies and will constitute one of the most critical elements of development planning and execution. They will necessitate accelerating the development of endogenous technological capabilities, upon which United Nations activities must be properly focused. Appropriate mobilization of human and financial resources at the national, regional and international levels is needed to achieve the main objective of the Vienna Programme of Action and the science and technology-related objectives of Agenda 21 adopted by the United Nations Conference on Environment and Development. Policy makers, as never before, will be faced with a challenge and opportunity to make effectively reasonable and independent decisions on science and technology to meet critical development and environmental needs. It is essential that United Nations activities in science and technology emphasize endogenous capacity-building in order to assist Member States to meet those challenges and opportunities.

17.8 Endogenous capacity-building of developing countries in science and technology lies, among other things, in the capacity of those countries to choose, acquire, adapt, utilize and innovate technologies, including new ones, through technology assessment, including setting up of institutional mechanisms [for technology assessment] in the areas of priority action.

17.9 Consequently, international cooperation [to foster the endogenous] to support capacity-building in developing countries [that is, their autonomous

decision-making in science and technology,] must be oriented to the demand-driven priorities in order to support their efforts in economic growth, social [and] development and environmental protection and should emphasize management of technology in order to cope with technological change, promote scientific inventions and technological innovations in developing countries and to progress on the path towards sustainable development.

2. Overall strategy

17.10 The [Centre for Science and Technology for Development of the Secretariat] Department of Economic and Social Development is responsible for the elaboration and implementation of this programme. Its main tasks [is to assist the Director-General for Development and International Economic Cooperation in fulfilling the responsibility assigned to him in the Vienna Programme of Action, particularly in providing] are to provide the necessary substantive support to the [Intergovernmental Committee on Science and Technology for Development and] Commission on Science and Technology for Development in coordinating activities at the secretariat level related to science and technology within the United Nations system. In view of the intersectoral character of science and technology, there is a close relationship between this programme and those carried out by organizational units involved in science and technology-related activities, including UNCTAD, the regional commissions [, the Department of International Economic and Social Affairs and the Department of Technical Cooperation for Development of the Secretariat] and UNEP, as well as between the United Nations programme in science and technology, and science and technology-related programmes of organizations of the United Nations system. This programme will also be carried out in close coordination with the implementation of programmes 19, Natural resources, and 20, Energy. In carrying out the programme, the Department will seek to promote, in particular, coordination and complementarity between the activities of the Commission on Science and Technology for Development and those of the high-level Commission on Sustainable Development to be established in accordance with chapter 38 of Agenda 21 of the United Nations Conference on Environment and Development.

17.11 The [Centre] Department assists the [Intergovernmental Committee] Commission in providing policy guidelines for the organizations of the United Nations system with regard to scientific and technological activities and monitoring these activities within the system, in the implementation of the Vienna Programme of Action and the science and technology related provisions of Agenda 21. The mechanisms through which such coordination is effected at the secretariat level [is] are the Task Force on Science and Technology for Development and the Task Force on Sustainable Development of the Administrative Committee on Coordination.

3. Subprogramme structure and priorities

17.12 The subprogramme structure proposed under this programme [follows in essence that presented in the medium-term plan for the period 1984-1989, as revised and extended to 1991, with the exception of subprogramme 1, Policy analysis, research and the mobilization of resources for science and technology for development. Further experiences in the implementation of the

programme related to endogenous capacity-building and further developments in discussions at the ninth and tenth sessions of the Intergovernmental Committee on Science and Technology for Development suggest that it would be more appropriate to change the title of subprogramme 1 so that it better reflects the thrust of the activities undertaken under the subprogramme.] aims at better reflecting the overall substantive thrust of the activities undertaken. It also takes into account the implications of the outcome of the United Nations Conference on Environment and Development, particularly Agenda 21, with regard to science and technology. Consequently, the four subprogrammes proposed under the programme are as follows:

Subprogramme 1. [Endogenous] Capacity-building and resource mobilization

Subprogramme 2. Advance Technology [Alert] Assessment System

Subprogramme 3. Coordination and harmonization of activities of the United Nations system on science and technology for sustainable development

Subprogramme 4. Information services

B. Subprogrammes

SUBPROGRAMME 1. [ENDOGENOUS] CAPACITY-BUILDING AND RESOURCE MOBILIZATION

17.14 The legislative authority for the subprogramme derives from General Assembly resolutions 34/218, section II, paragraph 5, and section III, paragraph 3, 37/244, section II, A and C; 41/183, 42/192, 44/14 B, [and] S-18/3 (annex, para. 28), 46/165, para. 1, and 46/235; (and) Intergovernmental Committee resolutions 6 (V), 4 (VIII), 6 (VIII), 6 (IX), 2 (X) and 1 (XI); and the Rio Declaration and Agenda 21 adopted by the United Nations Conference on Environment and Development.

17.15 The [10-year] experience since the 1979 Vienna Conference has underlined the need to move [away from] beyond the narrow concept of endogenous capacity as merely the development of an ample stock of scientists, technologists and institutions, towards the establishment of an effective linkage between science and technology and overall national development objectives. Furthermore, capacity-building activities in science and technology need to reflect the overall new integrated approach to all aspects of development and environment, such as adopted by the United Nations Conference on Environment and Development. Activities in endogenous capacity-building in science and technology are designed to assist Member States in conceptualizing, planning and implementing national policies that seek to identify factors that influence their endogenous science and technology capabilities in the context of their priority needs, aspirations, resource endowments and sustainable development objectives. The contribution of the United Nations system [in particular, could] should therefore be [more usefully] aimed at the main components of endogenous capacity-building: (a) the ability to conduct effective national dialogues [among partners (stakeholders) in the development process] for the formulation of [a portfolio of] the necessary initiatives ranked by priority, in science and technology for sustainable development; and (b) the capacity to monitor, to assess and to

forecast effectively the implications of science and technology [with special emphasis on new and emerging sciences and technologies].

17.16 The approach [currently utilized by the Centre for Science and Technology for Development]) followed by the Department of Economic and Social Development and interested organizations of the United Nations system in initiating [experimental] endogenous capacity-building [processes] programmes in a [few] number of countries has given [some first] indications of its worth in accomplishing the objective of promoting endogenous capacity. The participation in national dialogues of stakeholders in the development process has proved to be an essential element in establishing a broad area of consensus in identifying by priority science and technology initiatives for sustainable development. This broad participatory decision-making process should help to bring about sustainable policies for the future and should facilitate the implementation of these policies; [in the face of the inevitable fluctuations over time in the national and international environments].

17.17 In the light of the experience gained, endogenous capacity-building activities of the [Centre] Department during the course of the [forthcoming] medium-term period will [continue to] reflect the [directive of transforming the general recommendations of the Committee into] need to implement the decisions of the Commission on Science and Technology for Development in interaction and harmony with the relevant decisions and recommendations of the future high-level Commission on Sustainable Development, in a country-specific context to meet the interest of individual Member States and the need for international assistance in critical areas of science and technology for their sustainable development. The key feature of the subprogramme is the consensus-building dialogue process among stakeholders in the sustainable development process. Based on recommendations to be made by national institutions of the countries concerned, policies and programmes would address topics of relevance to national sustainable development, which would be conducive to the development of a [portfolio] set of initiatives for priority investment in science and technology.

17.18 In the decade following the Vienna Conference, it has become increasingly clear that [no serious efforts at developing or strengthening] in order to strengthen endogenous capability in science and technology [would be possible without the] a concerted mobilization of resources - financial, human and institutional is called for at the national level, supplemented, [where possible] as needed, by assistance at the international level. Concerted efforts at the international level, including those by UNDP, the World Bank, the regional development banks and other international development aid agencies, will be required. Efforts are also needed to ensure the effective support to capacity-building activities by the new facilities and mechanisms that are or will be established within the follow-up to the United Nations Conference on Environment and Development, such as the Global Environmental Facility. The programme [of the Secretariat] will seek to achieve this objective by providing, on the basis of the outcome of the endogenous capacity-building projects, the required support in the implementation of [the portfolio of] national intiatives. [ranked by priority. The attainment of the objective would require the mobilization of institutional, human, financial and other resources, including cooperation with the World Bank and the regional development banks, in widening the windows of science and

technology in their programmes, as well as with the United Nations Fund for Science and Technology for Development, UNDP and other multilateral arrangements.]

[17.19 The involvement of the United Nations in endogenous capacity-building, however, should not be an endless process; it should rather aim at enabling the Intergovernmental Committee on Science and Technology for Development to come to a general formulation of sets of recommendations for consideration by Member States that need to develop their own endogenous capacity-building programmes to meet their specific needs.]

[17.20] New 17.19 This subprogramme will therefore aim at supporting the [Intergovernmental Committee] Commission on Science and Technology for Development in its role of strengthening the endogenous scientific and technological capacities of Member States, in particular the developing countries, of promoting the mobilization of financial and other resources through the coalition of resources to contribute to the full integration of science and technology in national sustainable development, of promoting the optimum utilization of resources of the United Nations system and other sources to attain the objectives of the Vienna Programme of Action and of the science and technology-related provisions of Agenda 21 of the United Nations Conference on Environment and Development, and of providing specific policy guidance and priorities for the activities of the United Nations Fund for Science and Technology for Development within the framework of the Vienna Programme of Action.

(b) Course of action by the Secretariat

[17.21] New 17.20 Activities under this subprogramme will be oriented in a way that would respond effectively to General Assembly resolution 44/14 A to E, and to the science and technology provisions of Agenda 21 adopted by the United Nations Conference on Environment and Development. Accordingly, the [Centre] Department will undertake the following activities:

(a) Undertake pilot studies for endogenous capacity-building, at the invitation of interested Member States, in up to 10 developing countries to assist national efforts towards effective utilization of science and technology for development, including blending of technologies in small and medium-sized enterprises, subject to review by the [Intergovernmental Committee] Commission within a three-year period, with a view to determining under what conditions these programmes could be continued with minimal involvement of the [Centre] Department, the most critical component of which are the series of national dialogues of stakeholders in national development, including policy makers and planners, bankers, scientists and technologists, entrepreneurs and others, designed to facilitate the identification of prioritized initiatives in science and technology for development;

(b) Provide follow-up to recommendations of the [Intergovernmental Committee] Commission on priority areas, such as specific science and technology programmes for Africa;

(c) Continue to provide substantive secretariat support to the [Advisory Committee on Science and Technology for Development, its task forces and panels of specialists;] Commission;

(d) Continue to undertake studies, [in cooperation with the Advisory Committee] through in-depth examination by panels of experts on substantive themes to be considered by the [Intergovernmental Committee] Commission;

(e) Assist Member States in the conceptualization of science and technology policy issues and options in the mobilization of human and financial resources, including fiscal incentives and disincentives and training and education;

(f) Support the elaboration of measures, policies and mechanisms to enhance developing countries' capacities to define capacity-building requirements, to generate, acquire and efficiently manage environmentally sound technologies;

(g) Examine ways and means of increasing the efficiency of indigenous technology in developing countries;

(h) Promote regional and subregional cooperation among developing countries in the field of capacity-building;

[(f)] New (i) Cooperate with the United Nations Fund for Science and Technology for Development, the regional development banks, international and, as appropriate, national funding agencies in the launching of pilot studies on endogenous capacity-building;

[(g)] New (j) Cooperate with UNDP, as appropriate, in the conceptualization of the indicative planning figure programme contents towards more effective integration of endogenous capacity-building in science and technology for development;

(k) Support the establishment of a network of community-based learning centres for capacity-building and sustainable development.

SUBPROGRAMME 2. ADVANCE TECHNOLOGY [ALERT] ASSESSMENT SYSTEM

(a) Objectives

[17.22] New 17.21 The legislative authority for the subprogramme derives from General Assembly resolutions 34/218, section II, paragraph 5 (g), section III, and 44/14 E; Intergovernmental Committee resolutions 4 (VI), paragraph 1, 4 (VII), paragraph 73, decision 1 (VII), resolution 1 (IX) I, paragraph 1, (and) 2 (X), paragraph 10, and 1 (XI), section C, paragraph 5; and the Rio Declaration and Agenda 21 adopted by the United Nations Conference on Environment and Development.

[17.23] New 17.22 [No serious attempt has been made in the past] Renewed efforts have been made to include technology assessment as part of the process of endogenous capacity-building in science and technology. Recent trends have confirmed that technology assessment capacity should become an integral part of endogenous capacity-building, as the ability to choose among technologies, including new and emerging sciences and technologies, would presume the ability to assess the implications of those technologies on development.

[17.25] New 17.24 Bearing in mind the fact that [from 1989 onward] pursuant to the mandate given in 1988 by the General Assembly to the Intergovernmental Committee, the choice of substantive themes for analysis by the [Intergovernmental Committee] Commission on Science and Technology for Development would be based on the relevance of science and technology to the agenda of the General Assembly and that it would be analysed through [the ATAS] a technology assessment approach and taking into account the outcome of the United Nations Conference on Environment and Development, the [Centre]) Department would undertake the following activities:

(a) Provide support to the [Intergovernmental Committee in its role of initiating arrangements] Commission for the early identification and assessment of new scientific and technological developments that may positively or adversely affect the development process for strengthening the endogenous scientific and technological capacities of the developing countries [(the Centre's role in this respect would be similar to the role that the Centre already plays in national endogenous capacity-building dialogues, engaging the expertise of the United Nations system)];

(b) Serve as the focal point for technological assessment within the United Nations system and, where possible, for relations with Governments and non-governmental organizations concerning technological assessment activities in Member States;

(c) Assess and forecast regional, subregional and national technology needs/priorities as they relate to the sustainable development objectives in developing countries;

[c] New (d) Provide policy guidance via the technology assessment approach on issues of topical interest in the General Assembly debate;

[d] New (e) Facilitate access to available expertise and increase the role of ATAS as a catalyst in technology assessment efforts through an informal technology alert network of technology assessment institutions;

(f) Execute projects for training and research in technology assessment in developing countries as well as for the institutionalization of technology assessment in the decision-making process;

(g) Formulate methodologies for technology assessment, and guidelines for the application of assessment results in policy decisions relating to sustainable development;

(h) Promote the strengthening of assessment networks, such as the Advance Technology Assessment System, as a global framework for exchanging information on and development of capacities for technology assessment;

(i) Promote methods of assessing effective demand utilizing environment and development data as criteria for technology selection;

(j) Identify and assess developing countries' research needs and requirements in the context of achieving environmentally sound and sustainable development objectives, taking into account international efforts in research and development of environmentally sound technologies.

SUBPROGRAMME 3. COORDINATION AND HARMONIZATION OF ACTIVITIES OF THE UNITED NATIONS SYSTEM ON SCIENCE AND TECHNOLOGY

(a) Objectives

[17.27] New 17.26 The legislative authority for the subprogramme derives from General Assembly resolution 34/218, section II, paragraphs 3, 4 and 5, and section IV, paragraphs 1 to 5, 42/192, [and] 44/14 C and 46/235; Economic and Social Council resolution 1987/79; Intergovernmental Committee resolutions 4 (VII), paragraphs 10 and 11, 1 (VIII), paragraphs 2 and 6, 4 (VIII), paragraph 1, 1 (IX) I, paragraphs 2 and 5, 4 (IX) and 2 (X), and the Rio Declaration and Agenda 21 adopted by the United Nations Conference on Environment and Development.

[17.30] New 17.29 The objective of the subprogramme will be to assist the [Intergovernmental Committee] Commission on Science and Technology for Development in strengthening the role of the organizations of the United Nations system in the integration of science and technology for development by providing policy guidelines for the harmonization of policies, to improve the linkages between the organizations towards coordinated implementation of the Vienna Programme of Action at the country level, and to monitor the science and technology activities and programmes of the organizations of the system with a view to optimum mobilization of resources to carry out the implementation of the Vienna Programme of Action.

(b) Course of action of the Secretariat

[17.31] New 17.30 To that end, the [Centre] Department will assist the [Intergovernmental Committee] Commission on Science and Technology for Development to formulate and implement guidelines for the harmonization of policies, plans and procedures of the organs, organizations and bodies of the United Nations system in regard to scientific and technological activities and to [assist the Director-General for Development and International Economic Cooperation in the coordination] coordinate at the secretariat level science and technology activities within the United Nations system. In examining ways and means to improve the quality of coordination in the system, the Department will, in particular, support and seek to facilitate the establishment of a successful interaction and complementarity between the activities of the Commission on Science and Technology for Development and the high-level Commission on Sustainable Development to be established in accordance with chapter 38 of Agenda 21 of the United Nations Conference on Environment and Development.

[17.32] New 17.31 Decisions on policy guidelines on the activities of the United Nations system in science and technology will be implemented through (a) joint efforts with interested organizations in effective work programmes for enhancing the endogenous scientific and technological capabilities of Member States; (b) inter-agency country reviews, to be undertaken in cooperation with United Nations resident coordinators and interested organizations of the United Nations system; and (c) preparation of reports, in consultation with the ACC Task Force on Science and Technology for Development, on specific issues of coordination to be submitted to the [Intergovernmental Committee] Commission for its consideration and decision.

SUBPROGRAMME 4. INFORMATION SERVICES

(a) Objectives

[17.33] New 17.32 The legislative authority for the subprogramme derives from General Assembly resolution 34/218, section III, paragraph 3; [and] Intergovernmental Committee resolutions 2 (VII), 1 (IX) I, paragraph 2, and 2 (IX), paragraph 10; and the Rio Declaration and Agenda 21 adopted by the United Nations Conference on Environment and Development.

[17.35] New 17.34 The objective of this subprogramme therefore is (a) to facilitate access by interested Member States to scientific and technological information and to assist them in the conceptualization of policies towards enhancement of their science and technology information infrastructure; and (b) to continue to make available to Member States and organizations of the United Nations system information on progress in the implementation of the Vienna Programme of Action, of the science and technology-related provisions of Agenda 21 and other significant developments in science and technology.

(b) Course of action of the Secretariat

[17.36] New 17.35 In implementing the activities under this subprogramme, Member States, particularly the least developed countries, will be provided, at their request, with advisory services in the conceptualization of science and technology information policy issues and options and with basic scientific and technological information literature. The quarterly publication of Update [and media presentations, such as video, of successful experiences of Member States in the application of specific science and technology policy options for development] will be made available. The [Centre] Department will continue to develop and make available to Member States, upon request, directories of databases available in Member States on science and technology activities of organizations within the United Nations system. The Department will monitor and report information submitted by Governments, for example, in the form of periodic communications or national reports regarding initiatives in the area of science and technology to implement Agenda 21, and on the problems countries face in that regard. It will also promote the exchange of information with regard to the strengthening of national early warning systems, with particular emphasis on the use of modern technologies such as remote sensing. Efforts will also continue to be made to establish contacts with science editors of leading professional journals and important international news organs to further disseminate work related to the implementation of the decisions of the [Intergovernmental Committee] legislative organs of the United Nations. The [Centre] Department will cooperative with relevant non-governmental organizations, such as the World Association of International Research Organizations, the Third World Academy of Science, [ICSU] the International Council of Scientific Unions, and the International Association for Impact Assessment, and national organizations such as the American Association for the Advancement of Science and the French Association of Scientists and Engineers, in the implementation of this subprogramme.